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An Essay  
on  
Empyema

For the degree of Doctor of Medicine on the  
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by  
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of  
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# Emphyema

Pleuritis or inflammation of that membrane which lines the internal surface of the Thorax and affords an envelope to the thoracic viscera, may terminate in several ways 1st. by Resolution. 2nd Effusion of Serum 3rd Effusion of Coagulating lymph 4th Effusion of Pus or puriform matter 5th Gangrene The last, however is of very rare occurrence.

Resolution not having been accomplished by the efforts of nature or a judicious application of remedies and the inflammation being of a mild character and generally diffused over the membrane, an increased secretion of serum takes place, which collecting in the cavity of the Thorax constitutes Hydrothorax. The most frequent termination is in the effusion of coagulating lymph and consequent

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adhesions between the Pleura of the containing  
and contained parts, but the inflammation being  
of a higher grade, suppuration is induced forming  
Empyema, in which affection I purpose offering  
a few remarks as the subject of an inaugural  
disputation.

### Section 1st

The term Empyema is derived from εύ and  
νεύ which signify 'pus with' and was used by  
the ancient cultivators of medical science to ex-  
press merely an internal suppuration without  
regard to the part of the body in which it occurred.  
By Aulus, however, who flourished about the end  
of the fifth century, its application was limited  
to a collection of pus within the cavity of the tho-  
rax, and since that period it has been used exclu-  
sively in this sense.

Most commonly the disease is confined to one

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side of the chest, tho' sometimes both sides are implicated, constituting a Double Empyema, a condition as dangerous to the patient as it is discouraging to the practitioner of the healing art.

### Section 2 ad.

The commencement of Empyema is indicated by fits of coldness of the extremities and regions of the trunk which in a few hours are succeeded by a preternatural degree of heat of the body that continuing for a longer or shorter period gradually abates. The patient passes restless nights his extremities often feeling cold and his body covered by a profuse clammy perspiration. There is a cough that is harsh and dry or attended with a mucous expectoration. The pulse is full and accelerated and the tongue covered with a white fur.



The suppurative process being now fully established, and the matter beginning to accumulate, there is a sensation of weight at the sterno-bicubitalis cordis and occasional slight dyspnoea. These become more distressing as the fluid increases in quantity, which having occurred to a considerable extent, a fluctuation is perceptible, not only to the patient, but to persons standing by, on any sudden movement in the position of the body. This fluctuation becomes daily more evident and ascends until it can be distinguished above the superior margin of the Clavicle. That side of the Thorax becomes preternaturally expanded, the intercostal spaces becoming wider and adenomatous. The abdomen is not confined to the intercostal spaces extending sometimes over the whole of that side of the body on which the disease is situated, or to parts more or less remote, as to the Eye.



lid or Extremities. The shoulder becomes conspi-  
uously elevated and the difficulty of breathing  
is now almost intolerable. There is an inability  
on the part of the patient to lay on the sound  
side, and he experiences considerable pain on at-  
tempting to elevate the arm of the affected side.  
The pulsations of the Heart are felt, in some  
cases, at a considerable distance from the usu-  
al point, from the displacement of this organ  
by the pressure of the matter.

All these symptoms become more  
aggravated as the disease advances, till fi-  
nally by the ulceration absorption, the matter  
is discharged externally or through the Bron-  
chia by expectoration; or death ensues from suf-  
focation, unless an outlet be afforded the fluid  
by an artificial opening. Sometimes the mat-  
ter is absorbed, and the chest contracting by  
the ascent of the Diaphragm, the descent of



the Shoulder and the approximation of the ribs to each other, the Lung is brought in contact with the parietes of the Thorax, between which adhesions take place and a natural cure is thus effected.

This is the usual mode of accession, progress and termination of this affection; tho' it is possible for a considerable quantity of pus to exist in the Thorax, without giving rise to any symptoms sufficiently distinctive to indicate its presence.

### Section 3rd.

The most ordinary cause of this affection is the influence of cold, to which the contents of the Thorax are peculiarly exposed, and hence it is most frequently met with in Northern climates, and particularly those subject to sudden changes in the temperature of the

all verdamurgo. Et eam adiutorum  
nos a spiritu sancto ad celum domum dei  
conducimus et perducimus ad domum beat  
marie nomine et eam uocem suam uocem beat  
marie nomine.   
Adiutorum et  
spiritu sancto domum domini et in isto  
tempore et deinde adiutorum et perducimus eam  
ad celum per uocem beatissime marie nomine  
et eam uocem beatissime marie nomine et in  
tempore domini et adducimus eam uocem beatissime marie nomine et

### secundum

Adiutorum et per uocem beatissime marie nomine  
adducimus eam uocem beatissime marie nomine et  
in tempore domini et perducimus eam uocem beatissime marie nomine  
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tempore domini et adducimus eam uocem beatissime marie nomine et  
ad celum per uocem beatissime marie nomine et in tempore domini et

atmosphere.

It may result also from violence of any kind done the chest, as wounds, blows &c. as well as from extraneous bodies, as bullet pieces of cloth, fractured or exfoliating ribs, entering the Thorax from the receipt of a wound, by which inflammation is induced and perpetuated, while the wound healing externally, the escape of the matter is prevented. The Pleura may participate in an inflammation primarily seated in the substance of the or be induced by the discharging of a Vomica into the pleural sac.

In some few cases Emphyema has been caused by the discharge of an abscess of the liver.

#### Section 4th.

The existence of a fluid in the cavity of the chest may be ascertained by an exam-



ination by percussion. Percussion and Auscultation in conjunction with the signs that usually are presented.

By Percussion or shaking the body, a fluctuation is perceptible, which is more or less distinct in proportion to the extent of effusion.

Instead of the resonant sound which the ray emits by percussion in a healthfull condition of its viscera a dull, obscure sound is produced by this mode of investigation.

In Auscultation it will be observed, that the noise received by the entrance and exit of the air into and out of the air cells of the lungs, which is called the respiratory murmur, is deficient, as also the vibration that is imparted to the paries of the chest in speaking or singing.

Two other circumstances worthy of attention are the following. The difficulty of breath-



ing is very much aggravated by the re-  
cumbent position of the body or by pressure ex-  
erted on the Abdomen, and the inspiration is  
performed with less facility and convenience  
than the expiration.

With the presence of all these signs how-  
ever, Empyema is not certainly known, since  
they are concomitants on many other affections.  
To arrive, therefore, at a just conclusion in the di-  
agnosis, it will be necessary to instigate an en-  
quiry into the history of the case. If it be Em-  
pyema, the effusion will have been preceded by  
those constitutional symptoms, which character-  
ize the evolution of inflammation in the pro-  
duction of pus, the least equivocal of which is  
the occurrence of rigors; - it is a law of our na-  
ture says Dr. Thomson that rigors of longer or  
shorter duration, and of greater or less degrees  
of intensity, usually accompany the production



of pus in all the organs and regions in which it is formed

### Section 5th.

The method of treating Empyema has been by evacuating the matter by an opening through the Paroxysms of the Throat, on the principle of a common abscess. The want of success, however, that has generally attended this plan of treatment, offers little encouragement for its employment, further, than the urgency of the symptoms may demand the opening as a palliative measure. Few instances are on record when a recovery has succeeded the operation of Empyema; in almost every case the disease is hastened on to a fatal issue by it, from the violence of the constitutional symptoms which ensue.

An opinion is entertained by medical Practitioners that the presence of the pus is the only



presentation to the expansion of the lung, and were it removed, a cure would ensue by the lung coming in contact with the chest and forming adhesions. The improbability, however, of such an event is clearly demonstrated by examinations after death, where it is discovered that the lung is enveloped by an adventitious membrane of such density of structure, that no effort of this organ at expansion could overcome its resistance, did it always retain its aptitude for inflation; which it does not, partaking generally more or less in the morbid action.

Others, aware perhaps of the impracticability of this mode of cure, and under the impression of obliterating, by the granulation process, a cavity intolerable to the animal economy, have after in vacuating the matter, resorted to the use of astringent injections. This practice appears to me decidedly useless, since we are taught that



that serous membranes never granulate, and  
evidently permeous, as it tends, by exciting a  
new degree of irritation, to increase the discharge  
already too profuse.

The mode by which nature endeavours to  
effect a cure after the removal of the matter is  
as before stated by a contraction from the cir-  
cumference of the cavity towards its centre. It  
would therefore appear reasonable, that by the  
operation of Empyema we might assist her in  
the design and ultimately effect a cure; but gen-  
erally before this end can be accomplished, the  
patient is worn out by constitutional irritation  
and death terminates his sufferings.

Entertaining these views of the disease  
drawn from the experience of others, I am inclin-  
ed to the opinion, that the operation should be  
defered until that period, when the quantity of  
fluid becomes so great as to impede materially



the function of respiration by its mechanical action, and menace the approach of death from suffocation. Here, it must be considered inevitable, consistently with the protraction of life and consequently should be resorted to as the only alternative.

### Section 6th.

The place usually selected for the operation is between the sixth and seventh rib, and equidistant from the sternum and spinal column. This perhaps under ordinary circumstances will be found the most advantageous situation for the opening; yet, there are certain conditions of the part, that may lead to the adoption of some other point. If a prominence exist on any part caused by the pointing of the abscess, then we are advised to make the opening. We may also be directed to a particular spot says Mr.



Charles Bell by the long continuance of a fixed pain. It sometimes happens, that the Diaphragm has formed adhesions with the costal pleura, as high as the space mentioned as being usually selected, for the operation, in such a state of things, were the operation performed at this point, it would not only be ineffectual in affording an exit to the matter, but injury might result from protruding the instrument into the Abdominal cavity.

It would appear, therefor, that no fixed place can be laid down for the operation, but that one must always be decided on from the peculiar state of each case.

When a point has been determined on a large size Trocar will make an opening sufficiently large, where the escape of matter only is required; but, in those cases where there is reason to suspect the presence of some foreign substance



it will be necessary to use a scalpel, that the substance may be removed also. In four or five cases, says Professor Gibson, "I have succeeded in floating out along with the matter, pieces of cloth and bits of exfoliating ribs, by throwing in injections of tepid milk and water."

Having thus evacuated the matter, and thereby alleviated the sufferings of patient in some degree, as much is accomplished as can be hoped for. the orifice should therefore be closed and healed by the first intention, while the patient's system is supported by a nourishing diet and the whole tonic plan of treatment.

